n columns

Key matrix

N rows

16

Computer

Key assignment module

12

14

Key sets →

Device manufacturer(s)

18

10

Fig. 1

Fig. 2
overall logic

20
Receive N = #rows, n = #columns of key matrix, T = max. # of key sets

22
use _____ code C(n, ⌈log_N T⌉, N, d) whose Hamming distance d is max possible

24
Output (T) vectors of length n over alphabet (0,...,N-1) representing key sets

26
map each vector to unique codewords for j^th device key set, mp to ∑ b_i G_i

28
store G, indices of keys for future reconstruction of device keys

30
Associate vectors w/ respective device serial nos.

32
If desired, rename alphabet symbols using diff. permutation in each column
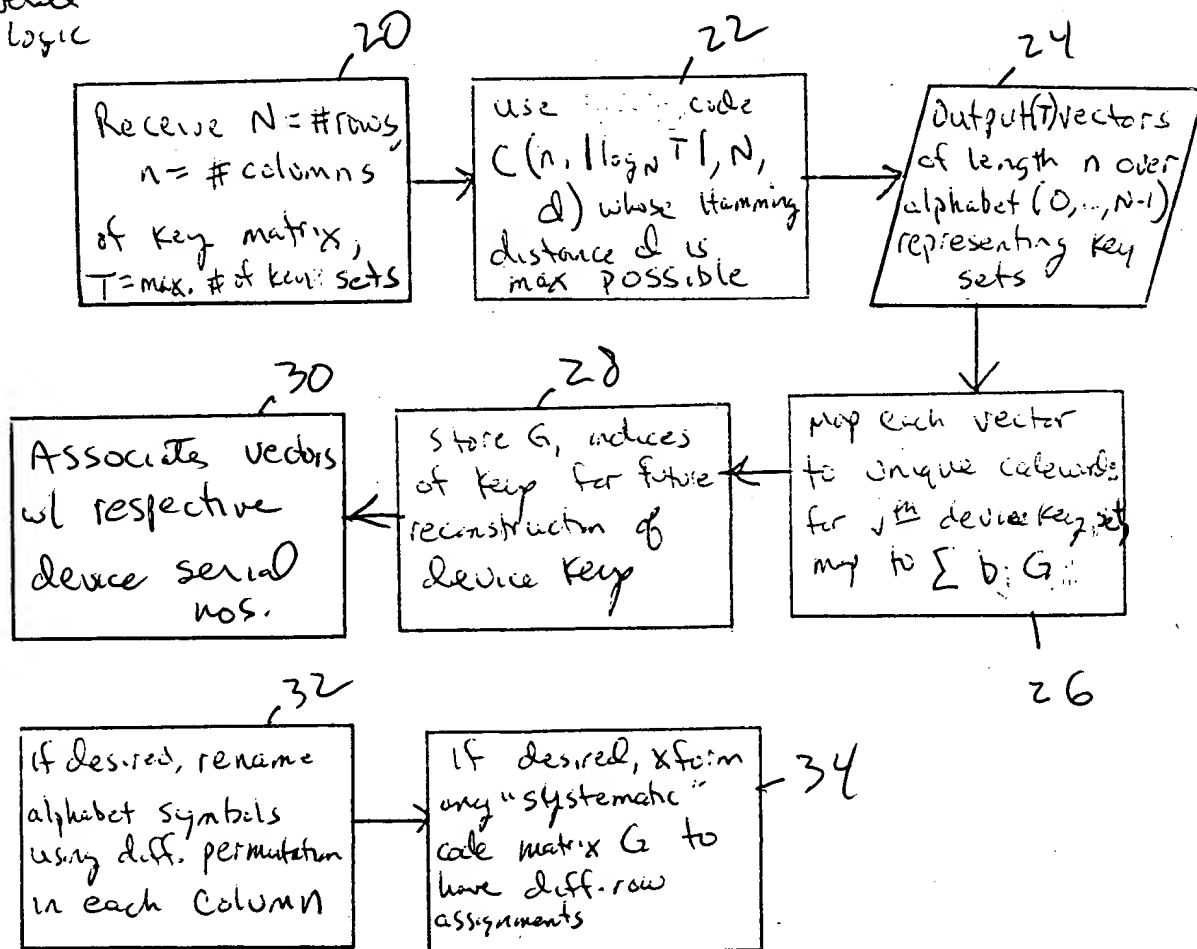
34
If desired, xform any "systematic" code matrix G to have diff. row assignments

Fig. 3 optional enhancements